

Phycitinae of San Diego, California, and Vicinity, with Descriptions of new Species (Lep.).

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San Diego lies in the extreme southwestern corner of the great "Southwest," which Mr. Hulst thought should produce many species of Phycits. That his ground was well taken is proven beyond a doubt by the many discoveries of recent years. In this paper I do not presume to have given all the species of this locality, as the field has as yet been but poorly covered, and there is little doubt but that as more careful and complete collections are made many new species will be added. Most of the species listed here were taken in the immediate neighborhood of San Diego, those taken elsewhere are noted in the text. La Puerta, which has produced some very interesting forms, is a small valley about one hundred miles from the coast on the edge of the desert, and it is rather to be expected that the fauna of that region will partake somewhat of the character of the Arizona fauna, lying, as it does, on the opposite side of the same desert. Also our proximity to the Mexican border is sure to discover many Mexican forms. Both of these facts suggest future studies when more extensive collections have been made.

This paper lists thirty-six species, two of which are described as new. No attempt is made to make the sequence logical, but it is hoped that the list, together with the notes, will be of interest to many who may be interested in this particular group.

In the preparation of the paper I have had access to the rather extensive collection of Mr. George Field, whose tireless work in gathering as complete a local collection as possible is commendable; in fact many of the species here named are not in my own collection at all. I also acknowledge help from Dr. Harrison G. Dyar.

1. *Myelois puertella* Dyar. One specimen, a cotype, Coll. Geo. H. Field, La Puerta, Cal., July. Type in National Museum. A very pretty and well marked species.

2. *M. culinginoidella* Dyar. Flies abundantly during June, July

and August. It frequents the low scrub oaks that are so plentiful in the canyons near the coast. It might easily be confused with *Alpheias denticulalis* Barnes and McDunnough as it has the same general color and habit; it is easily distinguished, however, in a large series.

3. *M. alatella* Hulst. Seven specimens in my cabinet. Six of these were taken in March and one, an exceptionally dark and well marked specimen, is labeled "Febr. 13." I do not find any note of this occurrence nor do I recall the circumstance, but it was probably captured, like all the rest, at light.

4. *Tacoma submedianella* Dyar. One specimen, a cotype, from La Puerta, Cal. The specimen is considerably worn but easily recognizable. It has the characteristic desert appearance. Taken at light in July. Type in National Museum.

5. *Salebria yumaella* Dyar. One specimen, Coll. Geo. H. Field, Jacumba (on the edge of the desert about ninety miles east from San Diego and near the Mexican border). The species is a decidedly interesting one. Type in National Museum.

6. *S. ochripunctella* Dyar. Four specimens, San Diego, October and November. A sombre-hued species that is conspicuous only for the ochre-colored dot that suggests its name. Types in National Museum.

7. *Pasadena constantella* Hulst. Four specimens collected at La Puerta in July. This seems to be a distinctly desert species.

8. *Elasmopalpus lignosellus* Zeller. Two specimens labeled October, 1907. San Diego, Cal. An interesting little species apparently quite local in habit. These four specimens are the only ones taken in ten years' collecting.

9. *Epischnia boisduvaliella* Guenée. Five specimens, San Diego, February to May. A beautiful, not very common species. A single specimen stood in my cabinet for several years and the other four were but recent captures.

10. *Megasis edwardsalis* Hulst. Eight specimens taken at light in January.

This is one of the largest species taken here. Its flight is limited to a few weeks, probably not more than three or four. It is quite variable as to expanse and color. Some specimens are light gray and others appear to be almost black. The ordinary marks are all very indistinct.

11. *Hypochoalcia truncatella* n. sp.

Venation, typical. Expanse, 23 to 25 mm.

Primaries broad, termen rather squarish. Reddish ochreous at base of wing and in the outer field. Median area ochreous with a heavy

sprinkling of black scales. Pale ochreous streaks on vein 1, the median, and a broader streak on the costa, all dusted with black scales. Basal line distinct, pale ochreous, remote, perpendicular to inner margin, broadly toothed inwardly on vein 1 and on the median, a dark streak on the costa and a blackish spot on the angle of the tooth. Outer line concolorous, distinct, parallel to outer margin, subcrenulate, rather distant from margin, inwardly bordered by a narrow dark line more prominent on the costa. Terminal space gray, more or less suffused with reddish ochreous. Terminal line black. Blackish streak at apex. Discal dots distinct.

Hind wings fuscous, darker on outer margin and at the apex.

Fringes lustrous, concolorous with the wings.

Thorax reddish ochreous, palpi fuscous, darker at the tip. Abdomen gray and more or less distinctly annulate with lighter color.

Cotypes, 3 males, one of which is in Coll. Geo. H. Field, and two in my own. The right wings of one specimen are mounted in balsam as a microscopic slide and bear the number "12."

In general appearance the species is close to *Lipographis leoninella*, but may be distinguished by its broader wings and the squarish termen. The species seems to be not common, these three specimens being the total catch of two collectors in ten years.

12. *Lipographis leoninella* Packard.

Some years ago the late Mr. Frank Merrick labeled two specimens for me, one as *L. leoninella*, and the other as *L. humilis*. They stood thus in my cabinet until recently when I was led to make a close study of a series consisting of about 50 specimens. The result of this study has convinced me that *humilis* does not occur in San Diego. *Leoninella* is so plentiful that at times it becomes a nuisance, fairly clogging the traps. I have often taken as high as 60 specimens in a trap in a single night.

13. *Etiella schisticolor* Zeller. I have but one specimen of this fine species taken at Witch Creek, in the mountains, about forty miles back from the coast.

14. *Sarata umbrellae* Dyar. I have two specimens, cotypes, neither in very good condition, and Mr. Field has three fine specimens in his collection. These five, with the two types in the National Museum, are all that have been captured in this vicinity to date.

The species flies only near the shore of the ocean and the larvae probably live on some of the "salt grasses" growing in the swampy places. It is an interesting species and quite conspicuous owing to the depth of color—deep reddish ochre with shades approaching white.

15. *Melitaria fernaldalis* Hulst (?). A single specimen in the collection of Geo. H. Field, San Diego, October.

I have never seen another specimen of this species. It is quite large and rather inconspicuously marked. This particular specimen looks much like the darker specimens of *M. edwardsalis*.

16. *Yosemitia graciella* Hulst. Three specimens in the collection of Geo. H. Field, La Puerta, Cal., July. A fine species and has the typical desert appearance.

17. *Yosemitia maculicula* Dyar. Four specimens in the collection of Geo. H. Field, one a cotype. March and June, San Diego. Seven specimens in my own collection. A rather neat little species. The earlier captures seem to be somewhat darker in color.

18. *Euzophora aeglaeella* Rag. Mr. Field has one fine specimen of this very interesting species which seems to be quite rare in this locality.

19. *Euzophora fuscomaculella* ^vn. sp.

Venation typical.

Antennae but slightly bent above the base, lamellated tufts in the bend more or less appressed, beyond ciliate, outer one-third slightly setose on both sides.

Palpi. Labial palpi ascending, slender, scarcely exceeding the head, third member half the second, dark fuscous, white annulus at second joint. Maxillary palpi distinct, rather heavily scale-tufted at the tip.

Primaries.—Expanse, 28 mm., light gray, well sprinkled with fuscous scales on the disk and outer third, dusted with black scales on outer costal region, washed with fuscous along the inner margin, nearly straight on the costa, a large irregular dark fuscous spot near the base. Basal line moderately remote, white, a rather deep sinus outwardly near the middle, strongly bent inwardly on the median, narrowly margined with fuscous inwardly below, and a broad dark fuscous spot costally on the outer side. Outer line pale, indistinct, a sharp tooth inward on the subcostal vein, wavy dentate below. Discal spots coalescing to form a dark lunule, the lower limb extending towards the outer angle and becoming lost in a pale fuscous shade; a whitish streak in the middle field just above the discal fold. A terminal row of blackish dots.

Secondaries.—Shiny white, semi-transparent, immaculate save at the apex.

Beneath, primaries pale fuscous gray; secondaries as above.

Abdomen tufted, annulate with white at the joints.

Described from two males in my own collection. Taken at light, May, 1909, San Diego, Cal.

The species is quite different from anything I have ever seen, and since these are the only specimens I have taken in some ten year's collecting in this locality, I conclude that it is quite rare.

20. *Vitula edwardsii* Packard. Mr. Field has one specimen bearing this label; the condition of the specimen makes it quite impossible to tell whether it is correctly named without good comparative material, which is not at hand.

21. *Vitula serratilineella* Rag. Two specimens which I take to be this species were captured at light in June. A third specimen gave up its wings for a slide.

22. *Heterographis morrisonella* Rag. Two specimens from La Puerta collected by Mr. Field in July. A third specimen bearing a San Diego date label was identified for me some years ago by the late Mr. Frank Merrick. Its rubbed condition, however, makes it doubtful. It is kept here for the present and hopes for future captures still linger.

23. *Hulstia undulatella* Clem. Eleven specimens of this pretty little species grace my cabinet. It is awing from April to October and scarcely a night passes that the traps do not entertain at least one as a guest.

24. *Honora dotella* Dyar. I believe the types of this species are in the National Museum. My first capture was near the seashore among the dunes; later I took several specimens some miles back in the hills. March and July.

25. *Homeosoma striatellum* Dyar. Mr. Field's collection, San Diego, March.

26. *Homeosoma mucidellum* Rag. Something like *Lipographis leoninella* as to numbers and a nuisance in the traps. I have thrown away enough good specimens to stock several museums and still have a large drawer full.

27. *Ephesiodes gilvescentella* Rag. Five specimens which were compared with a specimen in Mr. Field's collection that was named by Dr. Dyar. My specimens were collected at La Puerta by Mr. Frank Stephens and as far as I can see they are identical with *E. nigrella* except in alar expanse, which might be easily due to the desert conditions.

28. *Ephesiodes nigrella* Hulst. This is a very common species near the coast and is awing most of the year.

29. *Ephestia nigrella* Hulst. The only specimen I have ever seen is one from La Puerta belonging to Mr. Field. Date of capture, July.

30. *Zophodia stigmatella* Dyar. Many specimens from San Diego. A cotype is in Mr. Field's collection. Types in the National Museum.

At first glance one might easily take this to be *Yosemitia maculicula* Dyar; the outer third of the costa, however, is less arched and the spots are more distinctly separate.

31. *Zophodia fieldiella* Dyar. Types in the National Museum. One cotype in Mr. Field's collection.

A fairly well marked species, but may be easily confused with *Yosemitia graciella* Hulst. It is smaller, however, and the dark discal streak is curved downward, also there is somewhat more whitish. La Puerta, Cal., July.

32. *Eurythmia lignidorsella* Rag. Have fourteen specimens which I take to be this species.

33. *Valdivia mirabellicornella* Dyar. Eight specimens of this fine species grace my cabinet. Two more are referred here but are doubtful. A cotype is in Mr. Field's collection and if the types are not much better specimens, it seems to me that a redescription from good material might be profitable.

The species is quite variable, one perfectly fresh specimen is almost devoid of all marks, another is so suffused with black scales as to appear quite gray, losing almost entirely its ochreous color; in others the spots and streaks are strongly accentuated. It was almost impossible for me to be sure from the original description that my identification was correct even with a cotype for comparison.

34. *Martia arizonella* Rag. Three fairly good specimens taken at La Puerta in July. The species, like all others from this locality, has the peculiar "desert look."

35. *Petaluma inspergella* Rag. Four specimens, of which two are labeled "Jacumba" and two "San Diego." Jacumba is close to the Desert and very near the Mexican line. Again we have the "desert look." The species is almost immaculate.

36. *Bandela cupidinella* Hulst. Another almost immaculate species of which I have but four specimens.

That more systematic collecting will produce many more species from this locality seems altogether probable. The hills about the city are covered with the *Adenostoma*, which seems to be the breeding ground for many species. The low growing oaks, the varieties of *Rhus* and of *Ceanothus* are also good producers. Farther back in the hills are to be found many other shrubs and undergrowth that seem to abound in members of this group. Then, too, the length of the season, January first to December thirty-first on the coast, and from March to December back in the higher altitudes away from the coast, together with the lack of local collectors, makes it quite reasonable to suppose that the Phycit student could spend many profitable hours in this neighborhood.

A New Dragonfly Genus of the Legion *Protonaura* (Odonata).

By E. B. WILLIAMSON, Bluffton, Indiana.

Recently, in sorting over the South American Agrionines collected by B. J. Rainey, L. A. Williamson and myself in 1912, I discovered two males unfortunately overlooked when I studied the genus *Protonaura* (sens. lat.).*

PHASMONEURA new genus.

Closely related to *Psaironeura*. Colors dull; abdomen long and slender. Runs out in key page 620*, to *Psaironeura*. For *Psaironeura*, following c¹ under b², read as follows:

M₂ in front wing arising at seventh postnodal; in hind wing at fifth.

Phasmoncura

M₂ in front wing arising proximad to seventh postnodal, usually at the sixth or more proximad; in hind wing at the fourth or proximad*Psaironeura*

The subdivisions under c₁ under b₂ remain unchanged, all relating to species of *Psaironeura*.

Cu₁ in the front wings is very close to the wing margin, terminating at the descending cross vein in three wings, while

*Notes on Neotropical dragonflies or Odonata, Proc. U. S. Nat. Mus., Vol. 48, May 12, 1915, pp. 616-636.